

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SANTHANA KRISHNAMACHARI

Appeal No. 2004-0930
Application No. 09/934,962

ON BRIEF

Before HAIRSTON, OWENS, and BLANKENSHIP, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal is from the final rejection of claims 1-20, which are all of the claims in the application.

THE INVENTION

The appellant claims methods for characterizing and comparing images. Claims 1 and 6 are illustrative:

1. A method for characterizing an image comprising:
partitioning the image into a plurality of partitions, each partition including a plurality of pixels, each pixel having a color,
determining a frequency of occurrence of each color of the plurality of pixels within each partition, and
creating a characterization that includes a plurality of measures that are proportional to the frequency of occurrence of a plurality of colors.

6. A method of comparing a first image to a second image, comprising
 partitioning the first image into a plurality of first partitions, each first partition including a plurality of first pixels, each first pixel having a color,
 determining a frequency of occurrence of each color of the plurality of first pixels within each first partition,
 partitioning the second image into a plurality of second partitions, each second partition including a plurality of second pixels, each second pixel having a color,
 determining a frequency of occurrence of each color of the plurality of second pixels within each second partition
 comparing the frequency of occurrence of a select set of colors in each first partition with the frequency of occurrence of a corresponding select set of colors in each second partition.

THE REFERENCE

Sato et al. (Sato)	6,181,818	Jan. 30, 2001
	(effective filing date Nov. 14, 1995)	

THE REJECTION

Claims 1-20 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Sato.

OPINION

We reverse the rejection of claims 1-5 and 11-15, and affirm the rejection of claims 6-10 and 16-20.

Claims 1-5 and 11-15

Among claims 1-5 and 11-15 we need to address only the independent claims, i.e., claims 1 and 11. These claims require creating a characterization of an image that includes a plurality of measures that are proportional to the frequency of occurrence of a plurality of colors.

Sato obtains each element C_i of a block's color feature vector by counting the number of pixels within the hue range d_i-1 to d_i+1 in a histogram (col. 25, lines 56-58; figure 43).¹ Sato creates a color versus block size (i.e., resolution) index table which shows, for each C_i that is larger than a threshold value, the number of the block (region id) and the number of the image which includes the block (image id) (col. 26, lines 5-10; figure 45). Thus, "index information to images and regions having a predetermined frequency or higher of a specific color is stored in the index table **213** in units of blocks" (col. 26, lines 16-18).

The examiner argues that "Sato clearly teaches that the color feature vector (C_i), each C_i represents the number of pixels of color C_i in the block, is a characterization measure that is proportional to the frequency of occupance (how many pixels in the color C_i) in the local histogram of a block" (answer, eighth page)². The appellant's claims, however, do not require characterizing a block but, rather, require characterizing an image comprised of partitions (which correspond

¹ This corresponds to the appellant's determining a frequency of occurrence of each color of a plurality of pixels within each of a plurality of partitions.

² The pages in the examiner's answer are not numbered.

to Sato's blocks). Sato's image is characterized by the index table (col. 26, lines 16-18; figure 45). Each color C_i in that table merely represents the portion of the hue axis in the histogram from d_{i-1} to d_{i+1} (figure 43). For all d_{i-1} to d_{i+1} portions having a number of pixels which exceeds a threshold value, the image and block numbers are shown in the index table (col. 26, lines 5-10). Thus, a C_i value in the index table for which there are image and block numbers indicates that the amount of the color C_i in the block is above the threshold value, but does not indicate the degree to which the amount of color exceeds the threshold value. Hence, the color measures C_i in Sato's index table are not proportional to the frequencies of occurrence of the colors.

For the above reasons we find that the examiner has not carried the burden of establishing a *prima facie* case of anticipation by Sato of the invention claimed in the appellant's claims 1-5 and 11-15. We therefore reverse the rejection of those claims.

Claims 6-10 and 16-20

The appellant states that claims 6-10 and 16-20 stand or fall together (brief, page 3). We therefore limit our discussion to one of these claims, i.e., claim 6. See *In re Ochiai*, 71 F.3d

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1565, 1566 n.2, 37 USPQ2d 1127, 1129 n.2 (Fed. Cir. 1995); 37 CFR
§ 1.192(c)(7)(1997).

Sato discloses a method for comparing colors in respective regions of a registered image and a designated image (col. 29, lines 23-25). The registered image is input and divided into regions with similar colors, and color amounts in each region are extracted, mapped in the HSV color space and stored as a ratio to the area of the entire image (col. 27, lines 46-52 and 60-65; col. 28, lines 31-60). The designated images' color is converted into H, S and V values that are mapped on the same color space as the registered image, and the areas of the colors are compared (col. 29, line 1 - col. 30, line 40). These areas necessarily indicate the frequency of occurrence of the colors.

Thus, the examiner's finding that Sato discloses each element of the method claimed in the appellant's claim 6 reasonably appears to be correct (answer, tenth page). For this reason and because the appellant does not challenge the examiner's finding, we affirm the rejection of claim 6 and claims 7-10 and 16-20 that stand or fall therewith.

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DECISION

The rejection of claims 1-20 under 35 U.S.C. § 102(e) over Sato is reversed as to claims 1-5 and 11-15, and affirmed as to claims 6-10 and 16-20.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

KENNETH W. HAIRSTON)	
<i>Administrative Patent Judge</i>)	
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TERRY J. OWENS)	
<i>Administrative Patent Judge</i>)	<i>INTERFERENCES</i>
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HOWARD B. BLANKENSHIP)	
<i>Administrative Patent Judge</i>)	

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CORPORATE PATENT COUNSEL
U.S. PHILIPS CORPORATION
580 WHITE PLAINS ROAD
TARRYTOWN, NY 10591